

LED Projector "Pocket"

MODEL PK10 User Manual

This User Manual is important to you. Please read it before using your projector.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING:

TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

CAUTION:

TO PREVENT ELECTRIC SHOCK, DO NOT USE THIS AC ADAPTER'S PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET.

NOTE:

WHEN USING THE AC ADAPTER, THE SOCKET-OUTLET SHALL BE INSTALLED NEAR THE EQUIPMENT AND SHALL BE EASILY ACCESSIBLE.

WARNING

Only use the attached specified AC adapter and power cord. If you use another AC adapter and power cord, it may cause interference with radio and television reception or damage your projector.

The attached AC adapter and power cord are to be used exclusively for this product. Never use them for other products.

DO NOT LOOK DIRECTLY INTO THE LENS WHEN THE PROJECTOR IS IN THE POWER ON MODE.

CAUTION

Not for use in a computer room as defined in the Standard for the Protection of Electronic Computer/Data Processing Equipment, ANSI/NFPA 75.

When using the projector in Europe: COMPLIANCE NOTICE

This Projector complies with the requirements of the EC Directive 89/336/EEC "EMC Directive" as amended by Directive 92/31/EEC and 93/68/EEC, and 73/23/EEC "Low Voltage Directive" as amended by Directive 93/68/EEC.

The electro-magnetic susceptibility has been chosen at a level that gains proper operation in residential areas, on business and light industrial premises and on small scale enterprises, inside as well as outside of the buildings. All places of operation are characterised by their connection to the public low voltage power supply system.



Note: This symbol mark is for EU countries only.

This symbol mark is according to the directive 2002/96/EC Article 10 Information for users and Annex IV.

Your MITSUBISHI ELECTRIC product is designed and manufactured with high quality materials and components which can be recycled and reused.

This symbol means that electrical and electronic equipment, at their end-oflife, should be disposed of separately from your household waste.

Please, dispose of this equipment at your local community waste collection/ recycling centre.

In the European Union there are separate collection systems for used electrical and electronic product.

Please, help us to converse the environment we live in!

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Declaration of Conformity

Model Number: PK10

Trade Name: MITSUBISHI ELECTRIC
Responsible party: Mitsubishi Digital Electronics

America, Inc.

9351 Jeronimo Road, Irvine, CA

92618 U.S.A

Telephone number: +1-(949) 465-6000

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Trademark, Registered trademark

Macintosh is registered trademark of Apple Computer Inc. DLP., Digital Micromirror Device and DMD are all trademarks of Texas Instruments.

Other brand or product names are trademarks or registered trademarks of their respective holders.

Important safeguards

Please read all these instructions regarding your projector and retain them for future reference. Follow all warnings and instructions marked on the projector.

1. Read instructions

All the safety and operating instructions should be read before the appliance is operated.

2. Retain instructions

The safety and operating instructions should be retained for future reference.

3. Warnings

All warnings on the appliance and in the operating instructions should be adhered to.

4. Instructions

All operating instructions must be followed.

5. Cleaning

Unplug this projector both from the wall outlet and battery before cleaning it. Do not use liquid aerosol cleaners. Use a damp soft cloth for cleaning.

6. Attachments and equipment

Never add any attachments and/or equipment without the approval of the manufacturer as such additions may result in the risk of fire, electric shock or other personal injury.

7. Water and moisture

Do not use this projector near water or in contact with water. Never use the product if drop it in water.

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8. Accessories

Do not place this projector on an unstable cart, stand, tripod, bracket or table. Use only with a cart, stand, tripod bracket, or table recommended by the manufacturer or sold with the projector. Any mounting of the appliance should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer.



An appliance and cart combination should be moved with care. Quick stops, excessive force and uneven surfaces may cause the appliance and cart combination to overturn.

9. Ventilation

Slots and openings in the cabinet are provided for ventilation, ensuring reliable operation of the projector and to protect it from overheating. Do not block these openings or allow them to be blocked by placing the projector on a bed, sofa, rug, or bookcase.

Ensure that there is adequate ventilation and that the manufacturer's instructions have been adhered to.

10. Power sources

This projector should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power, please consult your appliance dealer or local power company.

11. Power-cord protection

Power-supply cord should be routed so that it is not likely to be walked on or pinched by items placed upon or against it. Pay particular attention to cord at plug, convenience receptacles, and points where it exit from the appliance. Do not put the power cord under a carpet.

12. Overloading

Do not overload wall outlets and extension cords as this can result in a fire or electric shock.

13. Objects and liquids

Never push objects of any kind through openings of this projector as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the projector, adaptor or battery.

14. Servicing

Do not attempt to service this projector yourself. Refer all servicing to qualified service personnel.

- 15. Damage requiring service
 - Unplug this projector from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - (a) If the power-supply cord or plug is damaged.
 - (b) If the adaptor or the battery is damaged.
 - (c) If liquid has been spilled, or objects have fallen into the projector, adapter or battery.

- (d) If the projector does not operate normally after you follow the operating instructions. Adjust only those controls that are covered by the operating instructions. An improper adjustment of other controls may result in damage and may often require extensive work by a qualified technician to restore the projector to its normal operation.
- (e) If the projector has been exposed to rain or water.
- (f) If the projector has been dropped or the cabinet has been damaged.
- (g) If the projector exhibits a distinct change in performance- this indicates a need for service.
- 16. Replacement parts

When replacement parts are required, be sure that the service technician has used replacement parts specified by the manufacturer or parts having the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.

17. Safety check

Upon completion of any service or repair to this projector, ask the service technician to perform safety checks determining that the projector is in a safe operating condition.

- 18. Keep appropriate method when recharge the battery.
- The projector is a precision instrument. Please pay attention on static electricity.

WARNING:

Unplug the power cord or remove the battery immediately if there is something wrong with your projector.

Do not operate if smoke, strange noise or odor comes out of your projector, adaptor or battery. It may cause fire or electric shock. In this case, unplug immediately and contact your dealer.

Never remove the cabinet.

This product contains high voltage circuitry. An inadvertent contact may result in an electric shock. Except as specifically explained in User Manual, do not attempt to service this product by yourself. Please contact your dealer when you want to fix, adjust, or inspect the projector.

Do not modify the projector.

It can lead to fire or electric shock.

Do not keep using the damaged projector.

If the projector is dropped and the cabinet is damaged, unplug the projector and contact your dealer for inspection. It may lead to fire if you keep using the damaged projector.

Do not face the projection lens to the sun.

It can lead to fire.

Use correct voltage.

If you use incorrect voltage, it can lead to fire.
Only use the provided AC adaptor (02550-0112-00).

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Do not place the projector on uneven surface.

Place the projector on a level and stable surface only.

Do not look into the lens when the projector is operating.

It may hurt your eyes. Never let children look into the lens when the projector is on.

Do not unplug the power cord or remove the battery during operation.

It can lead to product failure, fire, electric shock or other troubles.

Do not touch the air outlet grilles and bottom plate.

Do not touch them or put other equipment close to the air outlet grilles because they become hot during operation. The heated air outlet grilles and bottom plate may cause injury or damage to other equipment. Also, do not put the projector on a desk that is easily affected by heat.

Do not look into the air outlet grilles when projector is operating.

Heat, dust, etc. may blow out of them and hurt your eyes.

Do not block the air inlet and outlet grilles.

If they are blocked, heat may be generated inside the projector, causing deterioration in the projector quality and fire.

- Don't put upwards. Because of blocking exhausted hole.
- Don't drop.
- Don't throw it away.
- Don't project to person's eyes.



Place of installation

For safety's sake, do not use the projector at any place subjected to high temperature and high humidity.

Please maintain an operating temperature, humidity, and altitude as specified below.

- Operating temperature: between +41°F (+5°C) and +95°F (+35°C)
- Operating humidity: maximum 85%
- Never put any heat-producing device under the projector to prevent the projector from being overheated.
- Do not install the projector at a place that is unstable or subject to vibration.
- Do not install the projector near any equipment that produces a strong magnetic field. Also refrain from installing the projector near any cable carrying a large amount of current.
- Place the projector on a solid, vibration-free surface.
 Otherwise it may fall, causing serious injury or damage.
- Do not stand the projector on its end. It may fall, causing serious injury or damage.
- Do not place the projector near air-conditioning unit or heater to avoid the air outlet and inlet grilles from being exposed to hot air.

COMPLIANCE NOTICE OF FCC

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced Radio / TV technician for help.

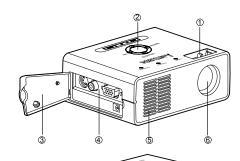
Changes or modifications not expressly approved by Mitsubishi could void the user's authority to operate this equipment.

COMPLIANCE NOTICE OF INDUSTRY CANADA

This Class B digital apparatus complies with Canadian ICES-003.



Overview



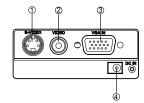
- Focus ring
- ② Control panel
- 3 Terminal cover
- 4 Terminal board
- S Air outlet grille
- 6 Lens
- 7 Kensington lock
- 8 Remote control sensor (Rear side only)
- Air inlet grille

Control panel

- (1) LAMP indicator
- ② POWER indicator
- ③ CHARGE indicator
- 4 Four directional buttons
 - ▲: AUTO POSITION button
 - VIDEO button
 - ■: COMPUTER button
- ⑤ ENTER button
- 6 POWER button
- 7 MENU button

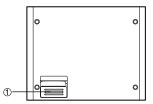
Terminal board

- S-VIDEO terminal
- VIDEO terminalVGA IN terminal
- (A) Damania ala
- 4 Power jack

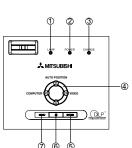


Bottom side

Battery latch







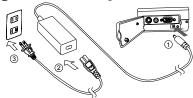
Power supply

Using the provided AC adapter (02550-0112-00) or an optional Lithium-ion rechargeable battery .

Warning:

The projector must be used with the provided AC adapter. Damage caused by the use of an incorrect adapter is not covered under the warranty.

Using the AC adapter



- 1. Insert the plug from the AC adapter into the DC IN terminal.
- Insert the appropriate end of the power cord into the AC adapter.
- 3. Insert the plug on the power cord into a wall outlet.
 - The POWER indicator lights red when using the AC adapter.
 - Use appropriate cord for your country.

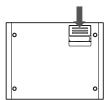
Using the optional battery

The projector must be used with specified Lithium-ion rechargeable battery (BT-PK10R 283P076-10). Charge

the battery before using the projector for the first time use. Using the projector for charging the battery. You may also use the projector when charging the battery.

For battery charging

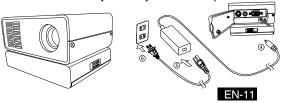
1. Move the battery latch to the open side.



2. Position the projector on the battery.



3. Match the battery carefully until it fits in place.



- Insert the plug from the AC adapter into the DC IN terminal.
- Insert the appropriate end of the power cord into the AC adapter.

Warning:

- Do not change the battery except this method. It may cause battery exploding.
- Do not remove the battery from the projector when operating.
- When remove the battery from the projector, power off the projector and unplug AC adaptor.
- 6. Insert the plug on the power cord into a wall outlet.
 - The CHARGE indicator lights red when charging is started and turns off when charging is completed.
 - We recommended that you full charge the battery all the time.

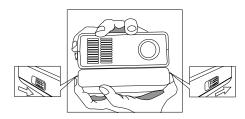
CHARGE (Red)	CONDITION
On	Charging battery
Off	Battery full

- When the projector is off, the charger works as a fast charging mode. It takes approximately 5 hours to complete charging.
- When the projector is on, the charger works as a slow charging mode. It takes approximately 7 hours to complete charging.

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For battery removal

Slide the battery lock switches on the two sides to remove the battery from the projector.

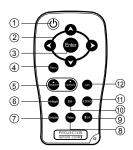


Warning:

- Please do not put battery into fire or heat, otherwise it may cause heating, fire, rupture or explosion.
- Please do not put battery away or transport it with necklace, hairpin, etc., otherwise it may cause heating, fire, leakage or explosion.
- Neither the positive nor negative terminal of batteries can touch any metal, otherwise it may cause heating, fire, rupture or explosion.
- Please do not poke battery with needle, hit, decompose or try to transform it, otherwise it may cause heating, fire, rupture or explosion.
- Please do not use or put battery near fire or under high-temp environment, otherwise it may cause heating, fire, rupture or explosion.

Remote control (optional accessory)

- (1) Power button
- ② Four directional buttons
- ③ Enter button
- (4) Menu button
- ⑤ Keystone ▲/▼ buttons
- 6 Hi-Bright button
- ⑦ Computer button
- 8 Video button
- Blank button
- ① Still button
 ① 4:3/16:9 button
- 2 Auto button

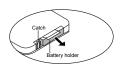


For the first time use:

Remove the transparent insulation tape by pulling it before use.

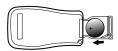
For battery change:

- Push the catch to the right and remove the battery holder.
- Remove the old Lithium coin cell and install new one (CR2025). Ensure that the side with the mark "+" is up.
- Push the battery holder back into the remote control until you feel a click.





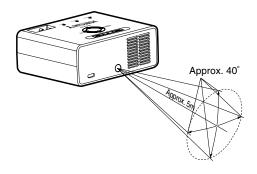






Operating Range

The infrared signal operates by line-of-sight up to a distance of approximately 16.4 feet (5 m) and within a 40-degree angle of the remote sensor. The projector will not function if there are objects between the remote control and the remote sensor on the projector or if strong light falls on the remote sensor. A weak battery will also prevent the projector from operating.



This sample may be slightly different from actual range.

Remote Control Precautions

- Handle the remote control carefully.
- Do not use the remote control if it got wet. Remove the battery immediately. Make sure the remote control and battery are dry before use.
- Avoid excessive heat and humidity.
- Do not place the battery upside down.

recommended by the manufacturer.

 Keep the coin cell battery out of reach of children so as not to allow them to swallow the cell battery.

CAUTION:

- Danger of explosion if battery is incorrectly replaced.
- Replace only with the same or equivalent type
- Dispose of used batteries according to your local regulations.
- Do not recharge, disassemble or dispose of the battery in fire.
- Remove the battery of remote control if the remote control is not used for a long time. Battery may explode if misused.

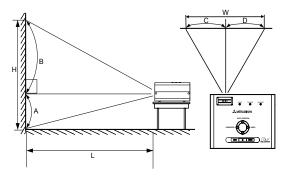


Installation

Layout of the projector

Image size varies depending on the distance between the screen and the projector.

Front projection



L: Between the screen and the front edge of the projector A: Hight of the projected image under the horizontal line Optical offset:

B: A \approx 27:13 C: D \approx 41:59

	Screen Distance						
Diagon	al size	Widtl	n : W	Heigh	nt : H	L	-
inch	m	inch	m	inch	m	inch	m
12	0.31	9.6	0.24	7.2	0.18	15.4	0.4
20	0.51	16.0	0.41	12.0	0.31	26.0	0.66
30	0.76	24.0	0.61	18.0	0.46	39.0	0.99
40	1.02	32.0	0.81	24.0	0.61	53.0	1.35
50	1.27	40.0	1.02	30.0	0.76	66.1	1.67
60	1.52	48.0	1.22	36.0	0.91	78.7	2.0

■ The above figures are approximate and may be slightly different from the actual measurements.

Caution:

- Do not place the projector on a carpet or any flammable materials. It may cause damage or fire.
- Place the projector at least 10 cm (or 4 inches) away from the wall to prevent the air inlet grille and the air outlet grilles that emit hot air from being blocked.
- Do not use the projector in the following locations and manners, which may cause fire or electric shock.
 - In a dusty or humid place.
 - In a sideways or upside-down position.
 - Near a heater.
 - In an oily, smoky, or damp place such as a kitchen.
 - In direct sunlight.
 - Where the temperature rises high, such as in a closed car.
 - Where the temperature is lower than +41°F (or +5°C) or higher than +95°F (or +35°C).

Important:

 Do not apply force to the lens, because the lens may be damaged.

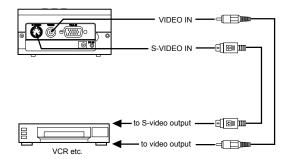
Basic connections

This projector can be connected with various devices such as a VCR, video camera, videodisc player, or personal computer that have analog RGB output connectors.

Important:

- Make sure that the connected device is turned off before starting connection.
- Plug in the AC adapter of the projector and the connected devices firmly. When unplugging, hold and pull the plug. Do not pull the cord.
- When the projector and the connected devices are located too close to each other, the projected image may be affected by their interference.
- See the owner's guide of each device for details about its connections.

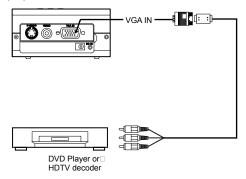
Projector + AV device





Projector + DVD player or HDTV

Some DVD players have an output connector for 3-line fitting (Y, C_B , C_R). When connecting such DVD player with this projector, use the VGA IN terminal.

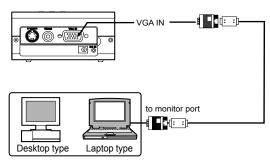


Important:

- The terminal's names Y, P_B, and P_R are given as examples of when a HDTV decoder is connected.
- The terminal's names vary depending on the connected devices.
- Image may not be projected correctly with some DVD players.

Projector + Computer

For computer with D-SUB



Important:

- When you use a longer RGB cable instead of the common length cable, the image may not be projected correctly.
- Some computers require additional connectors or analog RGB output adapters to be connected with this projector. Contact your dealer for further information.

For Macintosh

- If your Macintosh has no video port, a monitor output adapter is required. Contact your dealer for further information.
- Some Macintoshes require a MAC adapter for the RGB cable for connection with this projector. Contact your dealer for further information.



Preparation

Preparation for projection

- 1. Attach the provided AC adapter to the projector.
- 2. Plug the AC adapter in the wall outlet.
 - The POWER indicator lights red when using the AC adapter.

Warning:

- Do not look into the lens directly when the projector is on.
- Use 100-240 V AC 50/60 Hz to prevent fire or electric shock.
- Do not place any objects on the AC adapter and power cord or do not place the projector near heat sources to prevent damage to the power cord. If either the AC adapter or power cord should be damaged, contact your dealer for replacement because it may cause fire or electric shock.
- Do not modify or alter the AC adapter. If the AC adapter is modified or altered, it may cause fire or electric shock.

Caution:

- Plug in the power cord firmly. When unplugging, hold and pull the power plug, not the power cord.
- Do not plug in or out the power cord with your hand wet. It may cause electric shock.

Important:

- Install the screen on a flat wall at 90 degrees to the floor.
- Images may not be projected in a shape of a regular rectangle or with its aspect ratio 4:3, depending on the installation conditions of the projector and the screen.
- To correct vertical keystone distortion:
 On the optional remote control: press the KEYSTONE
 ▲/▼ buttons.

On the control panel: adjust KEYSTONE in the INSTALLATION menu.

In the following cases:





Press the KEYSTONE ▲.

Press the KEYSTONE ▼.

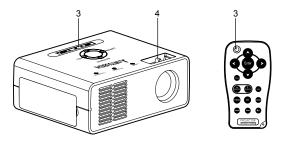


Important:

- When the keystone adjustment is carried out, the adjustment value is indicated. Note that this value doesn't mean a projection angle.
- The allowable range of the adjustment value in the keystone adjustment varies depending on the installation conditions.
- When the keystone adjustment takes effect, the resolution decreases. In addition, stripes may appear or straight lines may bend in images with complicated patterns. They are not due to product malfunctions.
- Noise may appear on the screen during the keystone adjustment because of the type of the video signal being projected and the setting values of the keystone adjustment. In such cases, set the keystone adjustment values in the range where the image is displayed without noise.
- When the keystone adjustment is carried out, the image may not be displayed correctly because of the type of input signal.

Basic operation

On the control panel



Power-on

- 1. Turn on the device connected to the projector first.
- Plug the AC adapter in both the projector and the wall outlet.
 - The POWER indicator lights up.
 - The CHARGE indicator lights up when the projector connects with a not fully charged battery.
 - The projector charges a not fully charged battery all the time.
 - The projector stops charging battery when battery is fulled.
- Press the POWER button either on the control panel or the remote control.
 - The LAMP indicator lights up and the POWER indicator goes off.
 - The lamp occasionally fails to light up. Turn off the projector, wait for one minute and then turn on it again.
 - After the POWER button is pressed, the image may flicker before the lamp becomes stable. This is not a product malfunction.

Condition Indicator	LAMP (Green)	POWER (Red)
Stand-by.	Off	On
When the lamp is on.	On	Off



Important:

- Images may not be projected with good quality in an extremely hot or cold environment. (This is not a product malfunction.)
- 4. Adjust the focus by turning the focus ring.
- Choose your desired external input source using the COMPUTER / VIDEO buttons.
 - The projector automatically selects the appropriate signal format. The selected signal format is displayed on the screen.
- Adjust the image size by changing the distance between the projector and the screen.
 - If necessary, adjust the focus ring again.

Caution:

The air outlet fan rotates faster as the temperature around the projector rises.

Power-off

Use the following procedure to turn off the projector. Do not turn off the projector by unplugging the power cord while the lamp is on. Unplugging while the lamp is on degrades the lamp's performance and causes failure in the projector.

- Press the POWER button either on the control panel or on the remote control.
 - Both the lamp and the LAMP indicator will go out.
 - The POWER indicator lights up.
- Unplug the power cord.
 - The CHARGE indicator will go out if a not fully charged battery is connected with the projector.
 - The POWER indicator goes out.

Important:

In case the system has frozen or hung up for whatever reason and the system has stopped responding, you may shut off the system by holding down the POWER button either on the control panel or on the remote control for 5 seconds.



On the remote control

KEYSTONE **▲**/▼ button

Press the KEYSTONE ▲ or KEYSTONE ▼ to adjust image distortion caused by tilting the projector.

Important:

- Keystone adjustment is available for the keystone distortion in a slant angle of ±15 degrees.
- Keystone adjustment will not change the shape of the menus, the start-up screen, and the background (with no signal input).

HI BRIGHT button

Press this button to activate high brightness mode. To exit, press this button again.

COMPUTER button

Press this button to select VGA input signal source.

STILL button

Press this button to freeze the current image on the screen. Press again to resume playback.

VIDEO button

Press this button to select video signal sources (S-VIDEO or VIDEO).

EN OO

BLANK button

The screen is temporarily cut off when this button is pressed. To cancel blanking, press this button again.

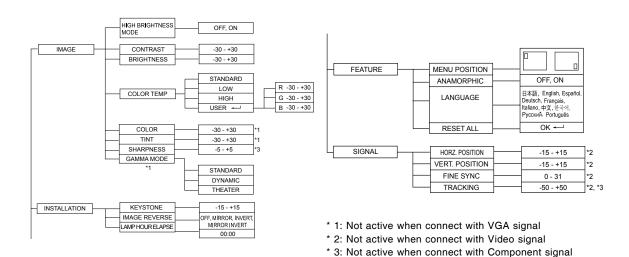
4:3/16:9 button

Toggle the 4:3/16:9 button to change the aspect ratio.

AUTO button

If source is a computer, press the AUTO button to adjust frequency and phase.

Menu operation





1 IMAGE

CONTRACT	. Ose to adjust the image contrast.
	The contrast becomes higher as the
	value increases.
BRIGHTNESS	. Use to adjust the image brightness.
	The image becomes brighter as
	the value increases.
COLOR TEMP	. Use to adjust the color temperature.
	.Use to adjust the color intensity
001011	of the image.
TINIT	•
T IN 1	.Use to adjust the color balance of
	the image. The color balance
	shifts to green as the value
	increases and shifts to purple as
	the value decreases. (Available
	only when VIDEO or S-VIDEO is
	chosen as the source.)
	* When the TV50 (PAL, SECAM)
	signal is input, TINT can't be
	• •
CHADDNECC	adjusted.
SHARPNESS	. Use to adjust the image sharpness.
	The image becomes sharp as
	the value increases.
	(Not available with certain signals.)

HIGH BRIGHTNESS MODE

......Select ON for high brightness mode.

CONTRAST Use to adjust the image contrast.

GAMMA MODE........Select STANDARD for computer sources. Select THEATER for film sources. For normal use, select AUTO. When AUTO is selected, the appropriate gamma mode is automatically selected depending on the input signal (VGA for STANDARD, THEATER

for S-VIDEO and VIDEO).

2 INSTALLATION

caused by tilting projection (±15°).

IMAGE REVERSE..... Use to reverse the projected image. Select MIRROR for rear projection with the tabletop-mounted projector. Select MIRROR INVERT for front projection with the ceiling-

mounted projector.

KEYSTONE......Use to adjust the image distortion

LAMP HOUR ELAPSE... Displays the lamp's elapsed operating time (in hours and minutes).



3 FEATURE

MENU POSITION...... Use to select the position of the menu on the screen, 1. [____ (upper left) or 2. ____ (lower right).

ANAMORPHIC........Select ON when playing DVD discs containing data of widescreen images.

LANGUAGE.......... Use to select the language used in the menu. (日本語, English, Español, Deutsch, Français, Italiano, 中文, 한국어, Pycckwi, Português).

RESET ALL............. Use to reset the menu settings (except LANGUAGE).

4 SIGNAL

HORIZ. POSITION.... Use to adjust the horizontal position of the image.

VERT. POSITION..... Use to adjust the vertical position of the image.

FINE SYNC................. Use to synchronize the projector with the PC input signal so that the image is not blurred.

TRACKING...... Use to eliminate image noise such as wide stripes.

Image adjustment

Image adjustment

You can adjust the image using the IMAGE menu.

To control the white-to-black level of the image:

Adjust CONTRAST in the IMAGE menu. Press the ▶ button to increase the contrast and the ◀ button to reduce it.

To control the light level of the image:

Adjust BRIGHTNESS in the IMAGE menu. Press the ▶ button to lighten the image and the ◀ button to darken it.

To determine the intensity of the color:

Adjust COLOR in the IMAGE menu. Press the ▶ button to increase the amount of color in the image and the ◀ button to decrease it.

To adjust the red-green color balance of the image: Adjust TINT in the IMAGE menu. Press the ▶ button to

increase the amount of green in the image and the button to increase the amount of red in the image.

To adjust the detail and clarity of the image:

Adjust SHARPNESS in the IMAGE menu. Press the ▶ button to sharpen the image and the ◀ button to soften the image.



Adjustment of the image from the computer

This projector adjusts the format of the video signal supplied from the computer. However, sometimes images are not projected correctly owing to the type of the computer used. When the image from the computer isn't projected correctly, press the AUTO button. If the image isn't projected correctly yet, adjust the image from the computer using the menu.

To move the image horizontally:

Adjust HORIZ. POSITION in the SIGNAL menu. Press the ▶ button to move the image to the left. Press the ◀ button to move the image to the right.

To move the image vertically:

Adjust VERT. POSITION in the SIGNAL menu. Press the ▶ button to move the image upward. Press the ◀ button to move the image downward.

When the image flickers:

Adjust FINE SYNC. in the SIGNAL menu.

Simple adjustment method

- 1. Select HORIZ, POSITION in the SIGNAL menu.
- 2. Press the ◀ or ▶ button to adjust the horizontal start position (or the left side of the image).
- 3. Select TRACKING in the SIGNAL menu.
- 4. Press the ◀ or ▶ button to adjust the horizontal end position (or the right edge of the image).
- 5. Repeat steps 1 to 4 for optimum adjustment results.
- 6. Select VERT. POSITION in the SIGNAL menu.
- 7. Press the ◀ or ▶ button to adjust the vertical start position (or the upper edge of the image).

Troubleshooting

The following offers solutions to some of the common problems you may encounter. We suggest that you consult this chart before contacting your dealer.

Images aren't projected on the screen.

Problem	Cause and	solution		
Power isn't turned on.	Check the states of the indicators.			
	LAMP(Red)	POWER(Red)	Charge(Red)	Solution
	Off	Off	Off	Connect the power cord to the projector.
				● Plug the power cord into a wall outlet.
Images aren't projected on the screen.	 Cancel blanking by pressing the BLANK button. On rare occasion, the lamp fails to light up. In such cases, try to light the lamp again. Check that the cable connected to the external device isn't broken. When an extension cord is being used, replace it with the supplied cable and check whether images are projected correctly. 			
Images suddenly disappear.	The air inlet or outlet grille may be blocked. → Remove the objects blocking the air inlet or outlet grille and carry out the following. 1. Wait for the air inlet or outlet fan to stop (or wait for the LAMP indicator to go out.) 2. Unplug the power cord from the wall outlet. 3. Wait about 1 minute. 4. Plug the power cord into the wall outlet. 5. Press the POWER button. Check that the battery or power cord connected with the projector correctly.			



Problem	Cause and solution
No source found.	 Turn on the power of the connected device, or check whether there is something wrong with the connected device. Check whether the external device outputs signals. (Check this especially when the external device is a notebook computer.) Check that the cable connected to the external device isn't defective. Check that the projector is connected to the external device using the correct terminals. Check that the connected device is correctly selected as the input source. When an extension cord is being used, replace it with the supplied cable and check whether images are projected correctly.
	whether images are projected correctly.

Images aren't projected correctly.

Problem	Cause and solution
Projected images are shaking.	Check that the cable connected to the external device isn't intermittent.
Projected images are displaced.	 Connect the cable's plug with the external device's connector firmly.
	 Some computers output out-of-spec signals on rare occasion Adjust the SIGNAL menu.
Projected images are distorted.	• Adjust the projector and the screen so that they are perpendicular to each other.
Projected images are dark.	Adjust BRIGHTNESS in the IMAGE menu.
Projected images are blurred.	 Adjust the focus. Clean the lens. Adjust BRIGHTNESS and CONTRAST in the IMAGE menu. Adjust the projector and the screen so that they are perpendicular to each other.
White dots are seen on projected images. Black dots are seen on projected images.	This symptom is normal for a DLP projector and is not a malfunction. (A very small number of pixels may stay lit or out, but such sympton is not a malfunction. Pixels of 99.99% or more are effective.)



Problem	Cause and solution
Rainbow blurprojected images.	This is due to color breaking noise that occurs in a DLP system and is not a malfunction.
Fine street pottern appears in projected images	It occurs because of interference with the screen and isn't a product malfunction.
Fine streak pattern appears in projected images.	Change the screen or readjust the focus of the projector.
	Connect the cable's plug with the external device's connector firmly.
	Keep the projector away from equipment generating interfering radio waves.
Projected images appear ways and distorted	When the keystone adjustment is carried out, the image may not be displayed
Projected images appear wavy and distorted.	correctly because of the type of input signal. This isn't a product malfunction.
	In this case, readjust the keystone so that the amount of keystone correction
	is as small as possible.
Tint in projected images is incorrect.	Check that the cable connected to the external device isn't broken.
Only the motion areas in the images	This is caused by the computer being used. Contact the manufacturer of your
supplied from the computer aren't displayed.	computer.
	Match the output resolution of your computer with the resolution of the projector. For the
	method to change the output resolution of the computer, contact the manufacturer
Projected images are obscured.	of your computer.
	• Some images and texts appear obscured during the keystone adjustment.
	In such cases, use the projector without applying the keystone adjustment.



Others

Problem	Cause and solution
Hot air is emitted from the air outlet grilles.	 This air comes out as a result of cooling the inside of the projector. This isn't a product malfunction.
The menu can't be used.	 The microcomputers inside the projector may be wrongly operating because of noise. Press the POWER button twice to turn off the lamp and unplug the power cord from the wall outlet. Wait about 1 minute, plug the power cord in, and try again.
The remote control doesn't function easily at all.	 Check that the battery is loaded in the remote control or the battery isn't weak. Check that the remote control sensor isn't exposed to direct sunlight or fluorescent light. Use the remote control within its operation range.

Maintenance

Caution:

Be sure to turn off the lamp and unplug the power cord from the wall outlet before you perform any maintenance on the projector.

Cleaning of the projector and the ventilation slots

Use a soft cloth to clean the projector and the ventilation grilles. When the grilles become dirty, wipe them with a soft cloth dampened with diluted mild detergent, and then wipe them with a dry cloth.

To protect the surface of the projector from fading or deteriorating:

- Do not spray insecticide on or inside the projector.
- Do not use benzine or thinner to clean it.
- Do not let rubber or plastic materials contact with projector.

Cleaning of the lens

Use a standard lens-cleaning brush or a piece of lens tissue dampened with lens cleaning fluid. The lens surface is fragile. Use only recommended, nonabrasive lens-cleaning materials. Do not touch the lens with your fingers.



Indicators

This projector has three indicators, each of which shows the operation condition of the projector.

The following offer solutions to possible problems. If these problem persist, turn the projector off and consult your appliance dealer.

LAMP POWER CHARGE

Normal condition (AC Adaptor only)

LAMP (Green)	POWER (Red)	CHARGE (Red)	CONDITION
ON	OFF	OFF	System ON
OFF	ON	OFF	System standby

Normal condition (AC Adaptor + Battery)

LAMP (Green)	POWER (Red)	CHARGE (Red)	CONDITION
ON	OFF	ON	System ON+Battery charging
ON	OFF	OFF	System ON + Battery full
OFF	ON	ON	System standby+Battery charging
OFF	ON	OFF	System standby+Battery full



Normal condition (Battery only)

LAMP (Green)	POWER (Red)	CHARGE (Red)	CONDITION
ON	OFF	OFF	System ON
OFF	ON	OFF	System standby
OFF	Flashing x 10	OFF	Low Battery (System turned off)

Abnormal condition

LAMP (Red)	POWER (Red)	CHARGE (Red)	CONDITION
OFF	Off x 1 (Flashing)	-	System Failure
OFF	Off x 3 (Flashing)	-	Fan abnormal
OFF	Off x 4 (Flashing)	-	Over temperature
Flashing x 1	OFF	-	System Failure
Flashing x 2	OFF	-	System Failure
Flashing x3	OFF	-	System Failure
ON	OFF	-	System Failure



Specifications

Туре	DLP™ projector	
Model	PK10	
Rated input	15V, 2.0A	
Display technology	Single 0.55" DLP panel	
Native resolution	800 x 600 pixels	
Colors	16.7 million	
Projection lens	Fixed zoom with focus adjust	ment; F2.0
Light source	RGB LED lamps	
Projection range	Typical image size: 12" - 60"	
	Typical distance: 40cm - 200	cm
Performance range	Typical image size: 15" - 50"	
PC compatibility	VGA (Expand)	640 x 480
	SVGA (Real)	800 x 600
	XGA (Compress)	1024 x 768
	SXGA (Compress)	1280 x 960
Video compatibility	NTSC-M, 4.43; PAL60; PAL-	M, N; SECAM;
	HDTV 480p, 720p, 1080i from	•
I/O Connectors	1	for composite video input; S-Video;
	D-SUB 15 female for analog \	/GA input
Outside dimensions	123 x 97 x 48.2mm (W x D x	H)
Weight	Approx. 1 lb (0.45kg)	
AC adapter input	100-240V AC 50/60 Hz	
Length of power cord	72.8 inch + 72.8 inch (1.85m -	+ 1.85m)
Temperature, humidity (performance guaranteed)	+41°F (+5°C) - +95°F (+35°C)), maximum 85%

• The specifications and outside appearance of the projector are subject to change without prior notice.



Kensington Lock

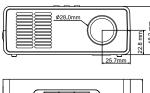
This projector has a Kensington Security Standard connector for use with Kensington MicroSaver Security System. Refer to the information that came with the Kensington System for instructions on how to use it to secure the projector. Please contact Kensington Technology Group below.

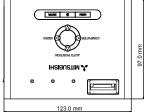
Kensington Technology Group 2855 Campus Drive

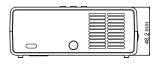
San Mateo, CA 94403, U.S.A.

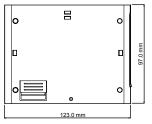
Phone: +1- (650)572-2700 Fax: +1- (650)572-9675

Dimensional drawings (unit: mm)











What's included in the box

1 Soft Carrying	Bag	P6439-3000-00
1 CD ROM (Use	er manual)	P6439-A001-00
1 Quick Referen	nce Guide	P6439-4001-00
1 Composite Vic	leo Cable	02552-0075-00
1 AC Adaptor		02550-0112-00
1 Power Cord	US	02552-0078-00
	EU	02552-0083-00
	UK	02552-0079-00

^{*} It depends on different counties or areas, only 1 cord is included.

Optional accessories

■ 1 Remote Control RM-PK10C 290P139-10 ■ 1 Lithium-ion Rechargeable Battery BT-PK10R 283P076-10

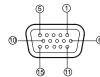
Pin assignment of S-Video, Video and VGA terminals



Pin No	Name
1	GND
2	GND
3	Υ
4	O



Pin No	Name
1	GND
2	Video In



Pin No	Name
1	R(RED)/C _R
2	G(GREEN)/Y
3	B(BLUE)C _B
4	GND
5	GND
6	GND
7	GND
8	GND
9	DDC5V
10	GND
11	GND
12	DDC Data
13	HD/CS
14	VD
15	DDC Clock



Specification of RGB signals in each computermode of the projector

Signal mode	Resolution (H x V)	Horizontal frequency (kHz)	Vertical frequency (Hz)
VGA 60	640 x 350	31.47	59.94
VGA 85	640 x 350	37.86	85.08
VGA mode3	640 x 480	31.47	59.94
MAC	640 x 480	37.86	72.00
VGA VESA 72	640 x 480	37.86	72.80
VGA VESA 75	640 x 480	37.50	75.00
VGA VESA 85	640 x 480	43.27	85.01
VGA VESA 85	720 x 400	37.93	85.04
SVGA VESA 56	800 x 600	35.16	56.00
SVGA VESA 60	800 x 600	37.88	60.00
SVGA VESA 72	800 x 600	48.08	72.00
SVGA VESA 75	800 x 600	46.88	75.00
SVGA VESA 85	800 x 600	53.67	85.06
MAC 16	832 x 624	49.72	74.55
MAC 19	1024 x 768	60.24	75.02
XGA VESA 60	1024 x 768	48.36	60.00
XGA VESA 70	1024 x 768	56.48	70.00
XGA VESA 75	1024 x 768	60.02	75.03
XGA VESA 85	1024 x 768	68.68	85.00
HP 75	1024 x 768	62.94	74.92
SXGA VESA 70	1152 X 864	64.00	70.02
SXGA VESA 75	1152 X 864	67.50	75.00



Specification of HDTV signals

Signal mode	Resolution (H x V)	Horizontal frequency (kHz)	Vertical frequency (Hz)
480i	720 x480	15.80	60.00
480p	720 x480	31.50	60.00
576i	720 x576	15.60	50.00
576p	720 x576	31.30	50.00
720p 60	1280 x720	45.00	60.00
720p 50	1280 x720	37.50	50.00
1080i 60	1920 x1080	33.80	60.00
1080i 50	1920 x1080	28.10	50.00

Important:

- Some computers aren't compatible with the projector.
- The projector's maximum resolution is 800 x 600 pixels. It may not display images of higher resolutions than 800 x 600 correctly.
- Images with SYNC on G (Green) signal may jitter.
- Images with SYNC on G (Green) signal may be tinged with green.
- If the resolution and frequency of your computer aren't shown on the table, find the compatible resolution and frequency by changing the resolution of your computer.



MITSUBISHI Projector Contact Information

North America

MESCA (Mitsubishi Electric Sales Canada Inc.)

http://www.mitsubishielectric.ca

Information Technologies Group, 4299 14th Avenue,

Markham, Ontario L3R 0J2, Canada

Sales & Technical Inquires

Phone :+1-(800) 450-6487 Fax :+1-(905) 475-7958

E-mail:projectors@mitsubishielectric.ca

Customer Care

E-mail:support@mitsubishielectric.ca

MDEA (Mitsubishi Digital Electronics America, Inc.)

(Warranty Registration)

http://www.mitsubishi-presentations.com/

Presentation Products Division, 9351 Jeronimo Road,

Irvine, CA 92618 U.S.A

Sales & Inquires

Phone :+1(888) 307-0349 or +1(949) 465-6000

E-mail:ppdinfo@mdea.com

Technical Inquires

Phone:+1-(888) 307-0309 E-mail:TSUPPORT@mdea.com

Europe

MEU-FRA (Mitsubishi Electric Europe B.V French Branch) 25. Boulevard des Bouvets 92 741, Nanterre CEDEX.

Fran<u>ce</u>

EN-40

Sales Inquiries

Phone :+33 (0)1 55-68-55-53 Fax :+33 (0)1 55-68-57-31

Techinical Inquireis

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MEU-GER (Mitsubishi Electric Europe B.V. German Branch) http://www.mitsubishi-evs.de/

Gothaer Strasse 8, 40880 Ratingen, Germany

Sales Inquires

Phone :09180 - 939673 Fax :09180 - 939674

Techinical Inquires

Phone :0049 - 2102 - 486 1330 Fax :0049 - 2102 - 486 1340

MEU-IR (Mitsubishi Electric Europe B.V. Irish Branch)

http://www.mitsubishi.ie/

Westgate Business Park, Ballymount, Dublin 24, Ireland Sales Inquiries

Phone :+353-1-4198807 Fax :+353-1-4198890

Technical Ingiries

Phone :+353-1-4198808 Fax :+353-1-4198895

MEU-IT (Mitsubishi Electric Europe B.V. Italian Branch) Centro Direzionale Colleoni, Palazzo Persero-Ingresso 2, Via Paracelso 12, 20041 Agrate Brianza, Italy Sales & Technical Inquiries

Phone :+39-(0)39-60531 Fax :+39-(0)39-6053214

E-mail:info.projector@it.mee.com

MEU-NL (Mitsubishi Electric Europe B.V. Benelux Branch) http://www.mitsubishi.nl/LCD/ProdFrame.html Nijverheidsweg 23A, 3641 RP Mijdrecht. The Netherlands

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Russia (Mitsubishi Electric Europe B.V Moscow

Representative Office)

http://www.mitsubishi-projector.ru/

Moscow Representative Office, 52/5 Kosmodamianskaya Nab., 115054, Moscow, Russia

Sales & Techinical Inquiries

Phone :(7095) 721-2068 Fax :(7095) 721-2071

MEU-SP (Mitsubishi Electric Europe B.V. Spanish Branch) http://www.mitsubishielectric.es/

Ctra. de Rubi, 76-80, 08173 Sant Cugat del Valles, Barcelona, Spain

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Phone :+34-93.565.31.54 Fax :+34-93.589.43.88

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Phone :+34-93.586.27.51 Fax :+34-93.588.53.87

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MEU-SWE (Mitsubishi Electric Europe B.V Scandinavian Branch)

Hammarbacken 14, Box 750, S-19127, Sollentuna, Sweden Sales Inquiries

Phone :+46-(0)8-6251070 Fax :+46-(0)8-6251036

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MEU-UK (Mitsubishi Electric Europe) http://www.mitsubishi.co.uk/evs/

Visual Information Systems Division, Travellers Lane, Hatfield, Hertfordshire, AL10 8XB U.K.

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Phone :+44 (1707) 278684 Fax :+44 (1707) 278541

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E-mail:projector.info@meuk.mee.com

Asia

CHINA (Mitsubishi Electric Air-Conditioning & Visual Information Systems (Shanghai) Ltd.) 26/F.,Oriental Center,699 Nanjing Rd(W),Shanghai,

200041, China



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Phone :+86(21) 5211-0882-3010

Fax:+86(21) 5211-0576

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Fax:+86(21) 5211-0576

HONG KONG (Mitsubishi Electric Ryoden Air-Conditioning & Visual Information Systems (HongKong) Ltd.)

7th Floor, Manulife Tower, 169 Electric Road, North Point, Hong Kong

Sales Inquiries

Phone:+852-2510-1505 Fax:+852-2510-0463

Technical Inquiries

Phone:+852-2422-0161 Fax:+852-2487-0181

SINGAPORE (Mitsubishi Electric Asia Pte. Ltd.)

http://www.mitsubishielectric.com.sg 307, Alexandra Road, #05-01/02 Mitsubishi Electric Building, Singapore 159943

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E-mail:Peripherals@asia.meap.com

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rax .+65-64/5-9503

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Phone:+65-6470-2666

Fax:+65-6475-9503

STC (Setsuyo Astec Corporation Seoul Branch)

4F, Dongseo Game Channel Bldg, 660-11 Deungchon-

Dong, Kangseo-Ku, Seoul, Korea

Sales & Technical Inqiries

Phone :+82-(0)2-2657-9841~3 Fax :+82-(0)2-2657-9900

MALAYSIA (Antah Melco Sales & Services Sdn. Bhd.) 6, Jalan 13/6 46860 Petaling Jaya Selangor, Darul Ehsan, Malaysia

Sales & Technical Inquiries

Phone :+60-(0)3-79552088 (Ext. 203)

Fax:+60-(0)3-79563950/+60-(0)3-79582576

Technical & Service Inquiries

Phone :+60-(0)3-79552088 (Ext. 106) Fax :+60-(0)3-79563950/+60-(0)3-79582576

ME-TWN (Mitsubishi Electric Taiwan Co., Ltd.) http://www.mitsubishi-kyw.co.th/

11TH FL., 88 SEC. 6, CHÚNG SHAN N. RD., TAIPEI, 111R. O. C.

Sales & Technical Inquires

Phone:+886-2-2832-8255

Fax:+886-2-2833-9813

MKY (Mitsubishi Electric Kang Yong Watana Co., Ltd.)

http://www.mitsubishi-kyw.co.th/

Road, Huamark Bangkapi, Bangkok 10240, Thailand

Sales & Technical Inquiries

Phone: +66-2-731-6841 Fax: +66-2-379-4763

Oceania

ME-AUST (Mitsubishi Electric Australia)

http://www.mitsubishi-electric.com.au/prod.asp?prod=proj 348 Victoria Road, Rydalmere, N.S.W. 2116, Australia Sales & Technical Ingiries

Phone :+(612)9684-7777 Fax :+(612)9684-7208

E-mail:diamonddigital@meaust.meap.com

Technical Inquiries

Phone:+(612)9684-7694

Fax :+(612)9684-7684

E-mail:service@meaust.meap.com

BDT (Black Diamond Technologies Ltd.) (Warranty Registration) http://www.bdt.co.nz/projectors/warranty.asp

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